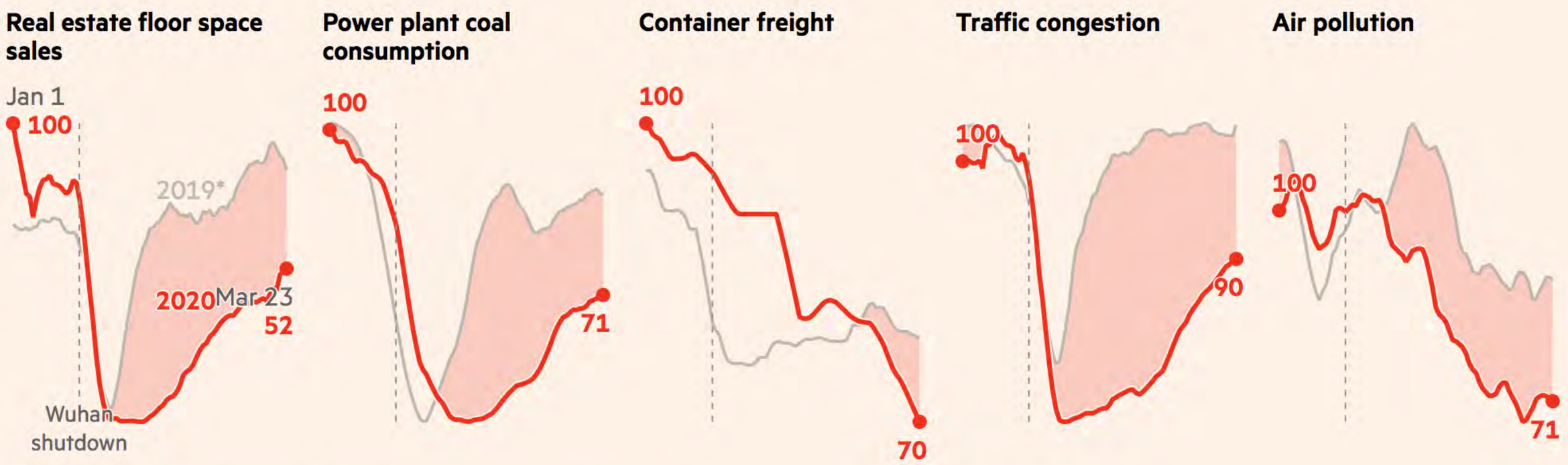
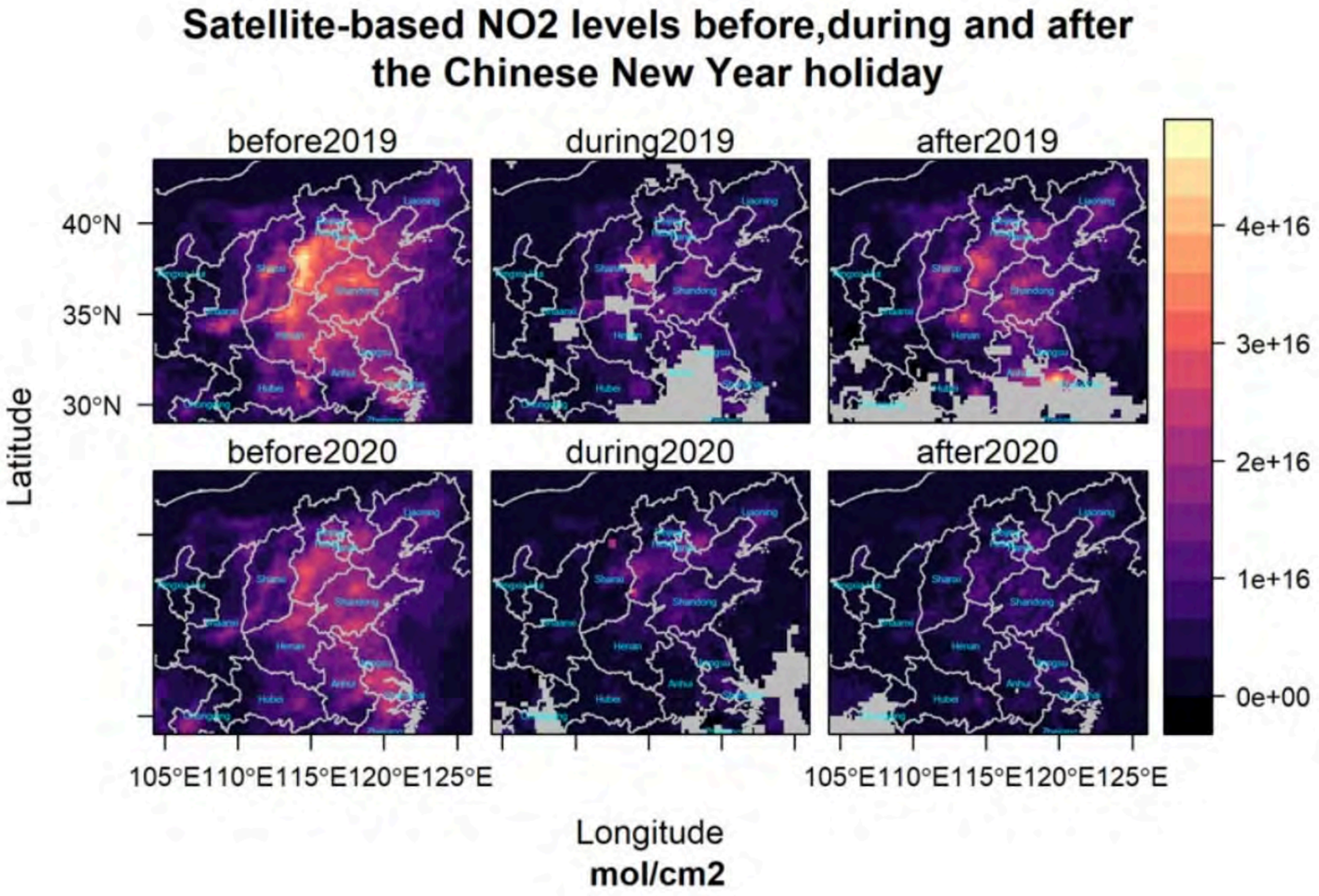
Globalization, Climate Change, and Cleantech Supply Chains in the Age of Covid-19

Jonas Nahm, ISEP Webinar, April 15 2020

Subindices (Jan 1 2020 = 100)

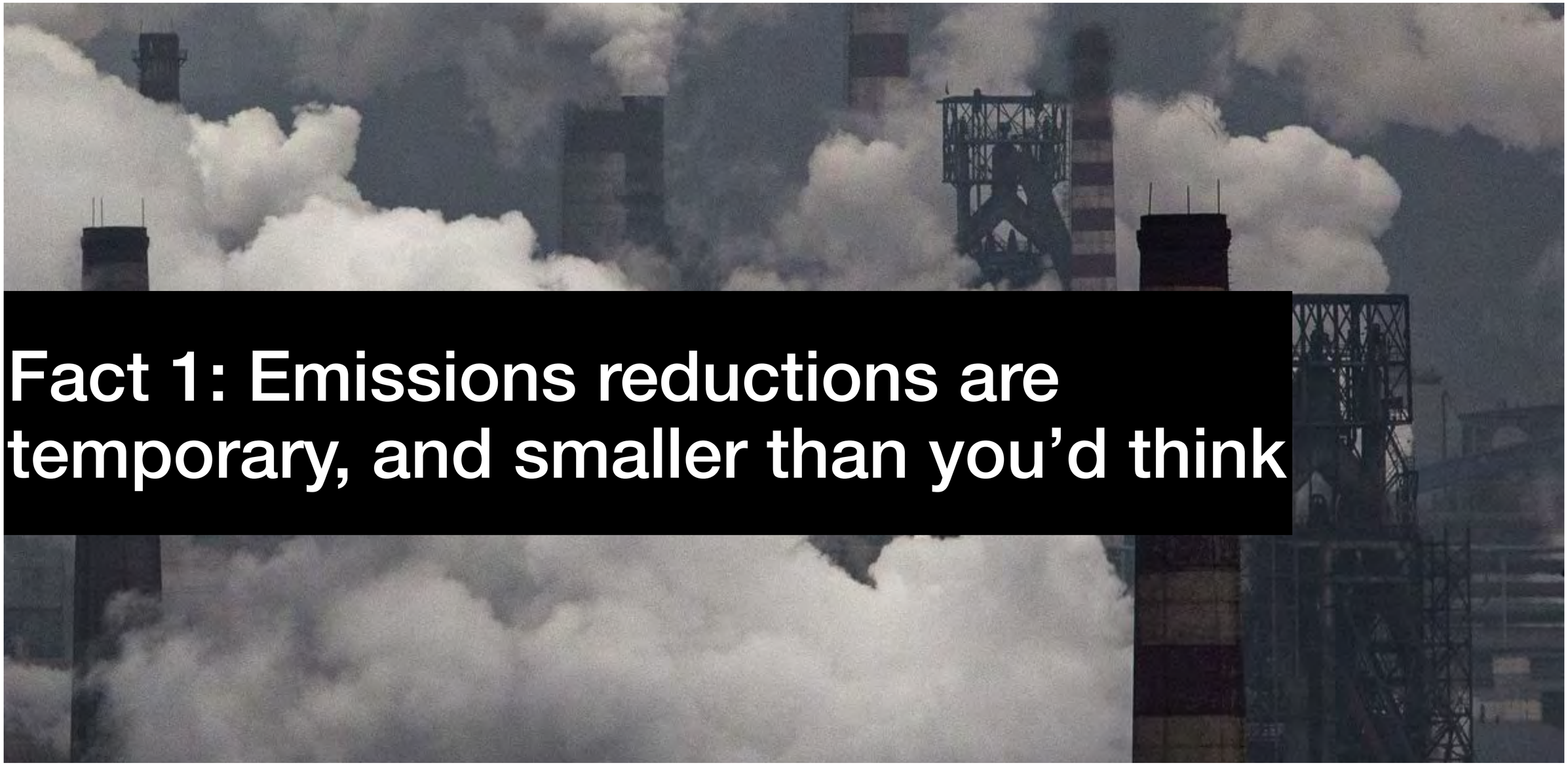


*2019 values at same number of days before/after the lunar new year
Sources: WIND; EntGroup; FT research


Satellite-based NO2 levels before,during and after the Chinese New Year holiday
before2019
during2019
after2019
before2020
during2020
after2020
40°N
35°N
30°N
Latitude
105°E110°E115°E120°E125°E
105°E110°E115°E120°E125°E
Longitude
mol/cm2
4e+16
3e+16
2e+16
1e+16
0e+00

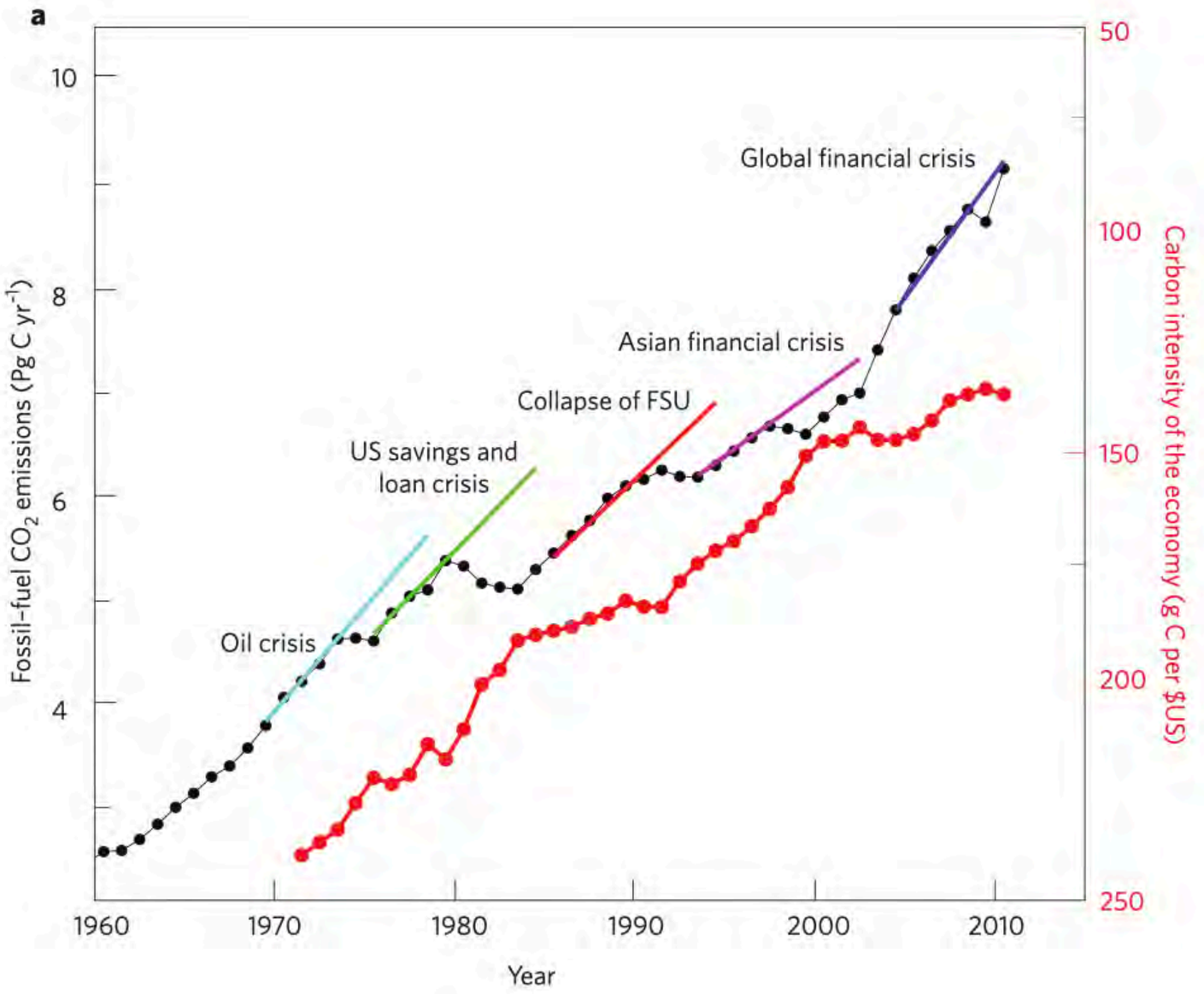
Covid-19 and Climate

- Fact 1: Emissions reductions are temporary, and smaller than you'd think
- Fact 2: Green stimulus share will likely be too small
- Fact 3: Covid-19 is undermining globalization, and that's bad for emissions



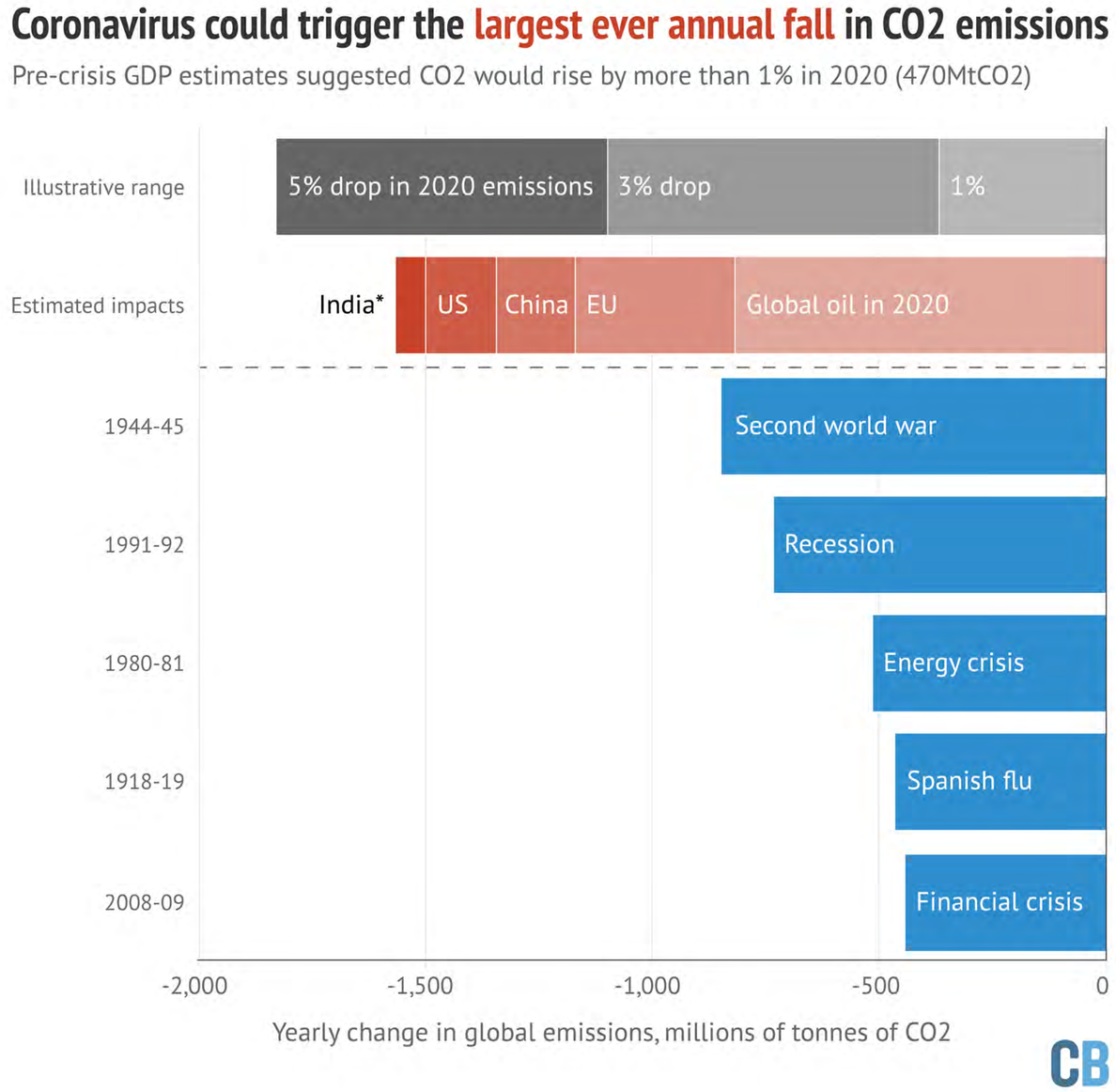
Fact 1: Emissions reductions are temporary, and smaller than you’d think

Emissions reductions are temporary, if past crises are any guide.

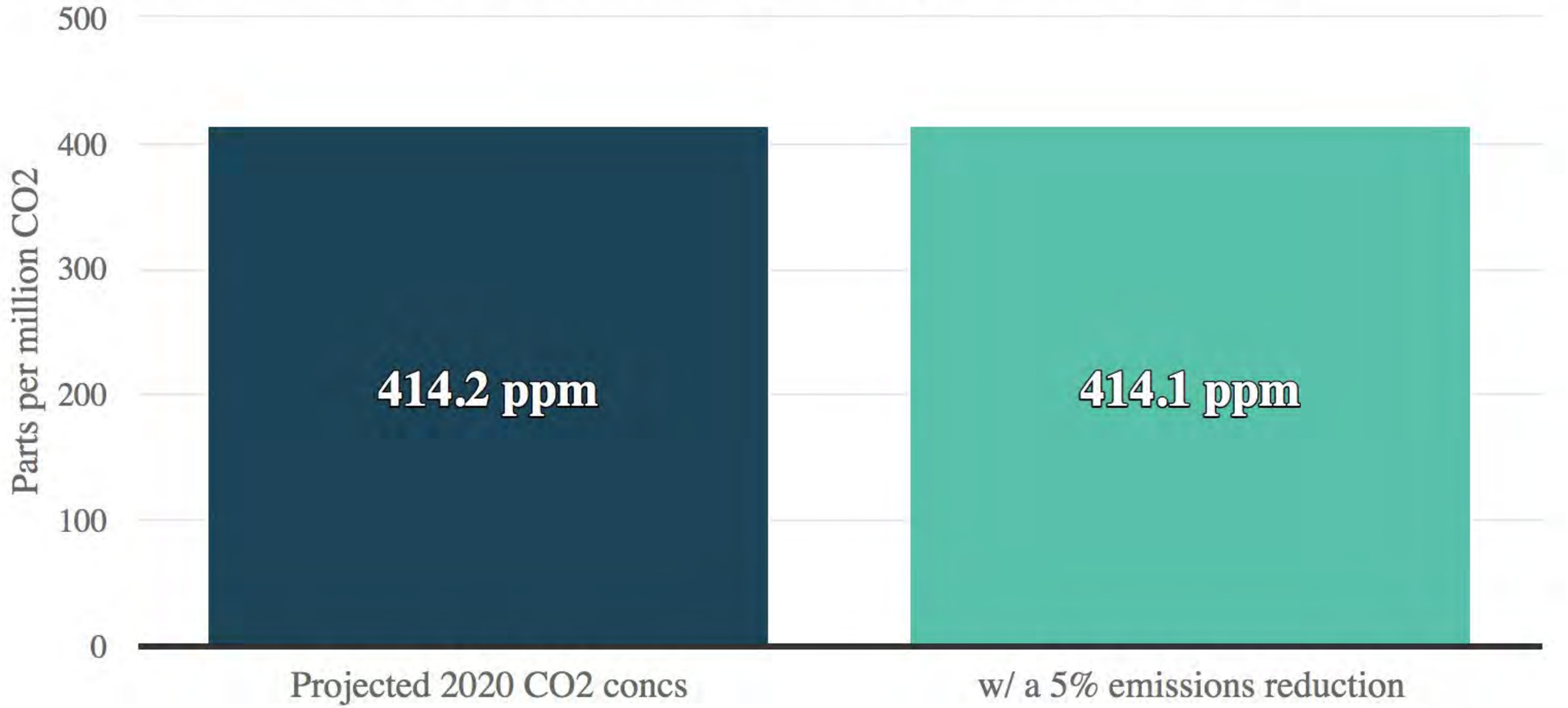


Source: Peters, G. et al. Rapid growth in CO_2 emissions after the 2008–2009 global financial crisis. Nature Clim Change 2, 2–4 (2012).

They are also likely to only amount to ~4 percent to global emissions.



COVID-19 will have no detectable impact on global temps in 2020



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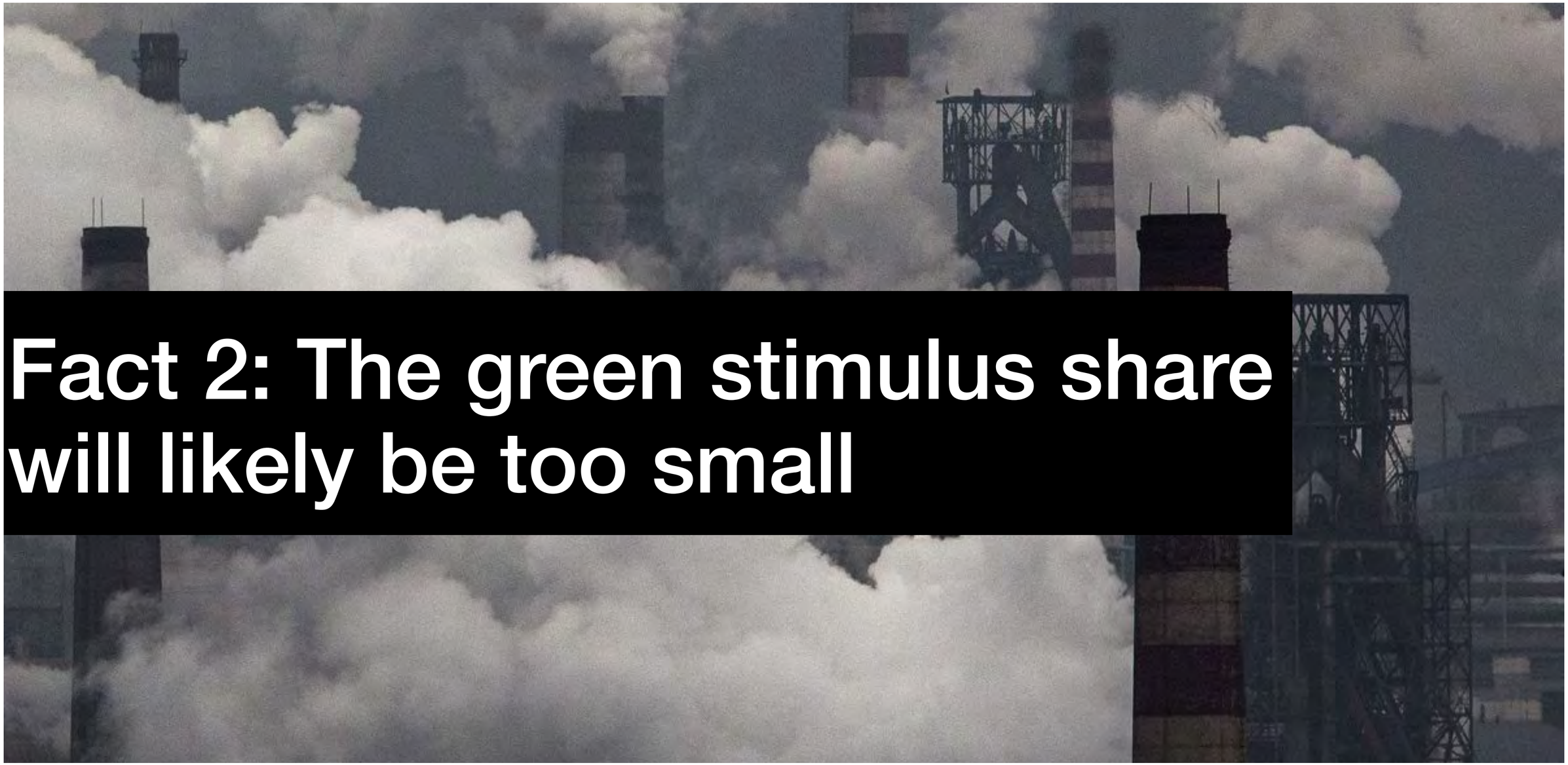


Fact 2: The green stimulus share will likely be too small

A Golden Opportunity?

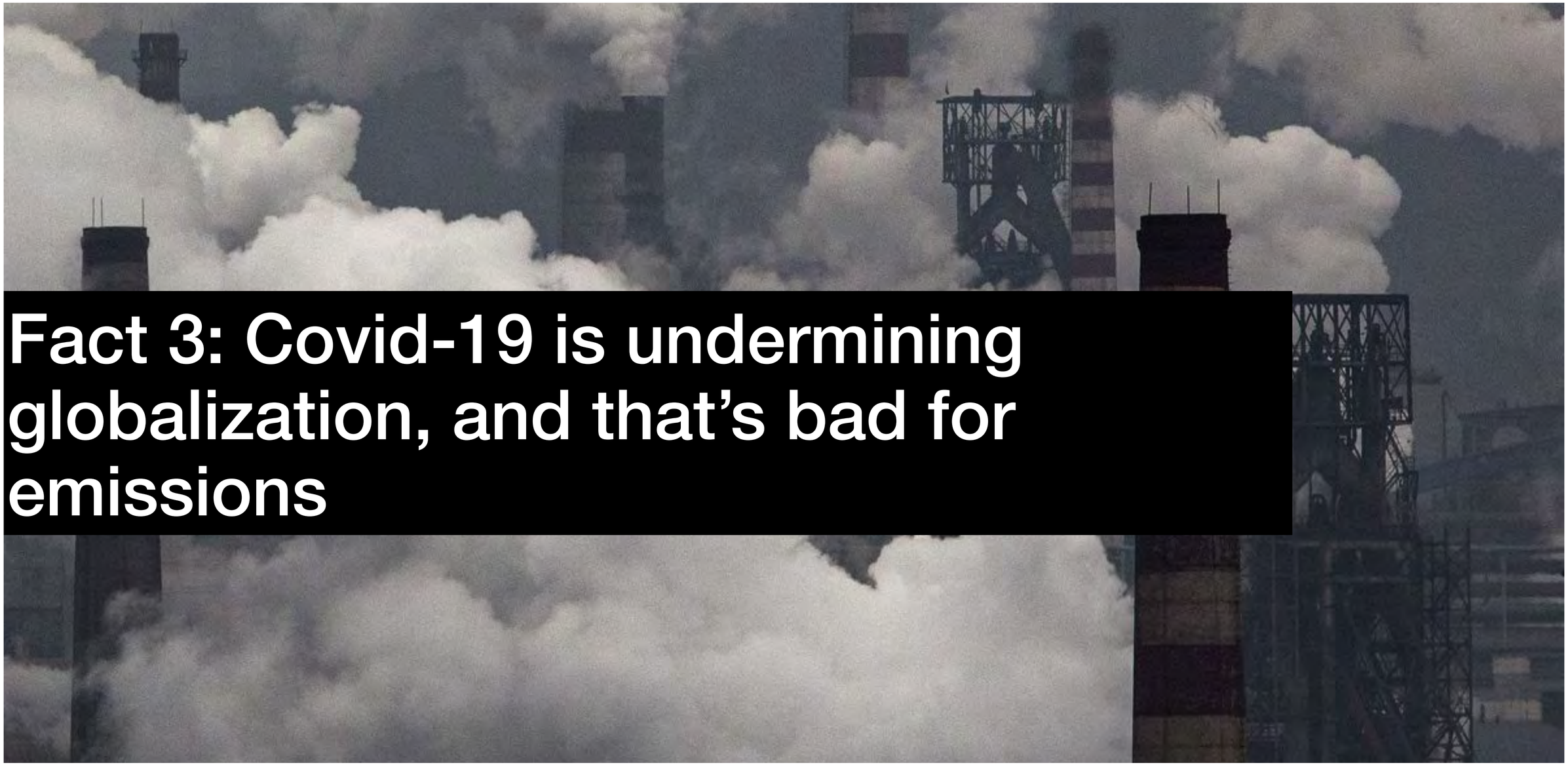
Unprecedented stimulus funding in the post-Covid recovery could trigger global investments in decarbonization.

After the Great Financial Crisis, no overwhelming climate push

- FY2009 - FY2010, some $500 billion spent on “green” projects, 16 percent of global stimulus spending. Energy investments accounted for roughly 11 percent.
- In the United States, $787 billion committed under the 2009 American Recovery and Reinvestment Act, less than $80 billion committed to green investment. (CSIS 2010).
- These numbers are based on projected top line spending, actual percentage of green stimulus estimated closer to 5 percent.

Carbon temptation

- Temptation to fund construction projects, which increased global emissions by 5 percents in 2010 recovery (Peters 2010)
- In China, shelved coal power plants could quickly be activated to spur growth and employment
- European Airlines asking for carbon taxes to be paused, German carmakers push back on climate targets
- In the United States, airlines and oil sector key stimulus targets



Fact 3: Covid-19 is undermining globalization, and that’s bad for emissions

Will the Coronavirus End Globalization as We Know It?

The Pandemic Is Exposing Market Vulnerabilities No One Knew Existed

By Henry Farrell and Abraham Newman March 16, 2020

1 Avoid the manufacturing trap
2 Collaborate with China

The political logic of green industrial policy

- Climate policy requires vast fiscal/regulatory resources to
  - incentivize behavioral change
  - offset costs of switching to new energy sources
  - compensate losers

Avoid the manufacturing trap

- Political need to build coalitions by promising local economic benefits
- Unique political status of manufacturing jobs
- Public funds primarily offered for local goods/products/services
    - Historically, proliferation of protectionism in clean energy policy
    - Trade barriers
    - Local content rules

In 2015, 44 US state programs with local content requirements

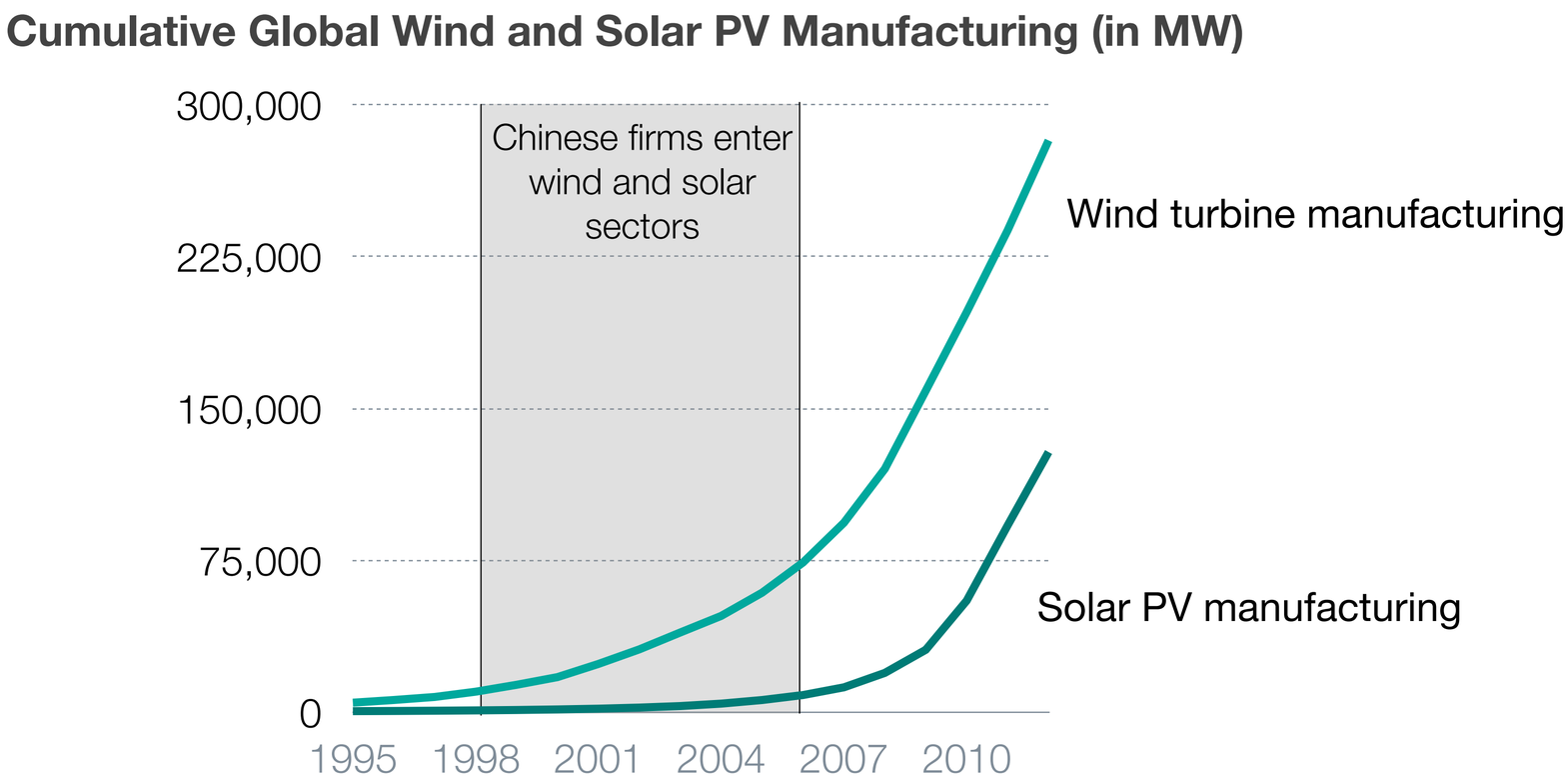
- Requirements to
  - use locally-locally-manufactured equipment (Michigan, Delaware)
  - use locally-generated electricity
  - grow local feedstock for biofuel

- Internationally: countervailing duty & anti-dumping disputes
- **Can we avoid the manufacturing trap in the post-Covid stimulus packages?**

Fixing the climate crisis will require collaboration with China

- China produces 66% of the world’s solar panels
- Chinese wind turbine manufacturers now represent approximately 35% of global supply
- China is the largest supplier of (and market for) electric vehicles
- Chinese firms make 69% world’s supply of lithium-ion batteries

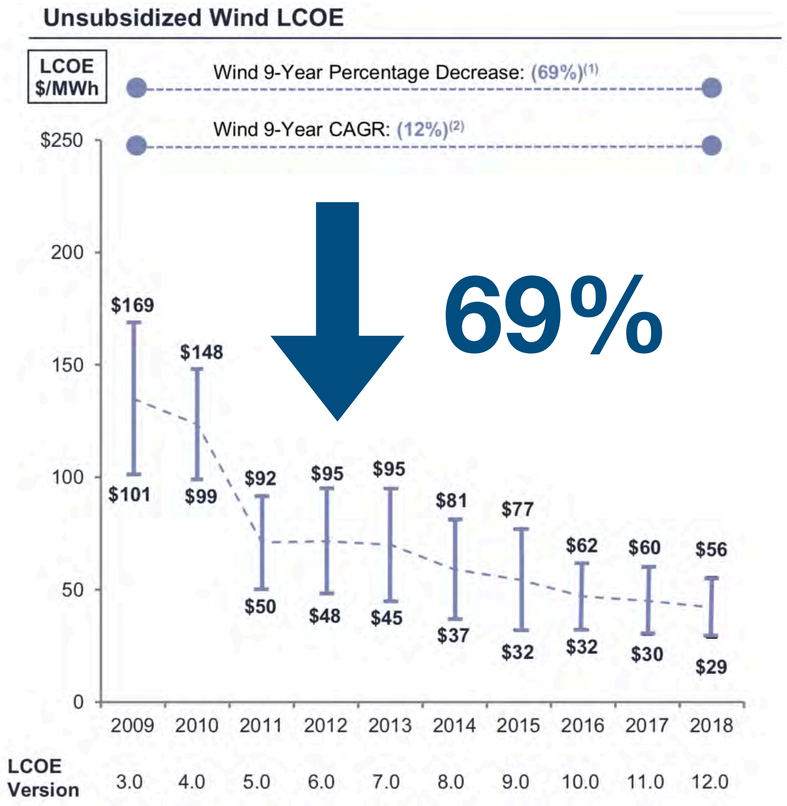
Collaborative advantage in renewable energy innovation



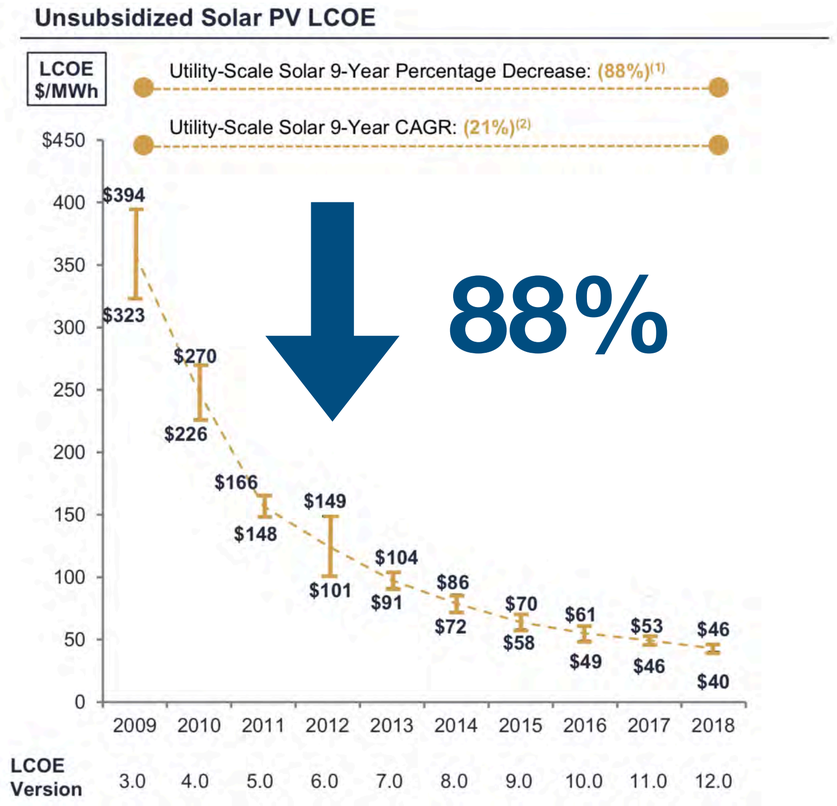
Source: Earth Policy Institute, 2013.

Cost declines because of collaboration with China

Wind



Solar



Source: Lazard

Covid-19 and Climate

- Lesson 1: Current emissions reductions demonstrate the scale of the climate challenge
- Lesson 2: Green stimulus is an opportunity but won’t get us around the politics
- Lesson 3: If we have any hope of preventing the worst consequences of climate change, we need to find a way to work with China